

REMARKS/ARGUMENTS

Claims 1-24 are currently pending. Claim 1 is currently amended for grammatical purposes. Claims 20-24 are added. New claim 20 finds support in original claims 1 and 4. New claim 21 finds support in original claim 19. New claims 22-24 find support in original claims 3-6. No new matter has been entered.

With respect to the 35 U.S.C. §102(b) rejection in view of *Gardiner*, Applicants submit that *Gardiner* does not anticipate Applicants' claims. Applicants claim a process for the production of a wood body comprising impregnating an untreated wood body with an aqueous solution of an impregnating agent and a catalyst, and then hardening the impregnated wood body while maintaining humid conditions at elevated temperature (see Claim 1). In contrast, *Gardiner* teaches impregnating the wood body with an impregnating composition and then drying and curing via heating (Abstract).

*Gardiner* does not teach maintaining humid conditions during hardening as required by Applicants. Quite the opposite, *Gardiner* teaches a drying step prior to the curing step using an oven or kiln at 50 to 80°C for about 12 to 24 hours (col. 6, lines 25-45). Under these conditions taught by *Gardiner*, the wood is dried below the fiber saturation point before curing begins (see Declaration submitted herewith, pg 2). Even if drying and curing are combined in one operation as suggested by *Gardiner* (col. 6, lines 46-51), the conditions described would again result in the wood being dried below the fiber saturation point during the curing (see Declaration submitted herewith, pg 2). In contrast, Applicants' process requires maintaining humid conditions so as to avoid drying of the wood below the fiber saturation point during hardening or curing (specification: pg 5, lines 4-24). As discussed above, such humidity conditions are not taught by *Gardiner* and accordingly, *Gardiner* does not anticipate Applicants' claims.

Furthermore, Applicants submit that *Gardiner* does not render obvious Applicants' claims. Applicants' process requires maintaining humid conditions during hardening while *Gardiner* does not. In addition, *Gardiner* does not teach, suggest or provide any motivation to apply humid conditions during hardening or curing. Moreover, Applicants' use of humid conditions instead of dry conditions provides unexpected results. More specifically, a skilled person in the art would have expected that humid conditions would have a detrimental effect on the curing since water is liberated from the N-hydroxymethyl groups under curing conditions (specification: pg 5, lines 26-31). In addition, a skilled person in the art would have also expected cracking of the wood body because wood swells upon the uptake of water but curing reduces the capability of swelling (Id.). However, in contrast to these expectations, the humid conditions as claimed by Applicants do not have detrimental effects on the curing and do not lead to increased formation of cracks in the wood body (see Tables 1-4 reproduced below).

Table 1

Wood type	Swelling from 0% atmospheric humidity to 96% atmospheric humidity	Relative improvement
Untreated pine sapwood	13.6%	
Treated pine sapwood	7.5%	45 %

Table 2

Wood	Modulus of elasticity at start of test	Modulus of elasticity after 32 weeks	Decline in modulus of elasticity	Mass loss
Untreated	8309 N/mm <sup>2</sup>	4096 N/mm <sup>2</sup>	51%	18%
Treated	8419 N/mm <sup>2</sup>	8272 N/mm <sup>2</sup>	2%	2%

Table 3

Wood	Mass loss after 8 weeks
Untreated	34%
Treated	1%

Table 4

Wood	Brinell hardness	Improvement
Untreated	35 N/mm <sup>2</sup>	
Treated	112 N/mm <sup>2</sup>	220%

Additionally, Applicants use of humid conditions not only results in the lack of increased formation of cracks, but actually reduces the formation of cracks in the wood body (see Example 1 of the Declaration submitted herewith, pg 3). In contrast, Comparative Example 2 of the Declaration (pgs 4-5) shows that the non-humid conditions of *Gardiner* lead to severe cracking and damage of the wood bodies. Additionally and unexpectedly, the cured wood obtained by Applicants' process can be post-cured at temperatures as high as 130°C without formation of cracks (see Declaration submitted herewith, pg 5-6). Accordingly, *Gardiner* does not render obvious Applicants' claims.

With respect to the double patenting rejection, a terminal disclaimer can be filed, if the claims in the present application remain obvious in view of the claims of the cited U.S. co-pending patent application at the time of allowance of the present application. Furthermore, additional amendments (if needed for allowance of these claims) may eliminate the double-patenting rejection, making the filing of a Terminal Disclaimer at this time premature. Indeed, M.P.E.P. § 804.02 IV states that, prior to issuance, it is necessary to disclaim each one of the double patenting references applied. Hence, Applicants respectfully request that the examiner contact the undersigned should the present amendments and

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arguments be accepted and should the present application be otherwise in a condition for allowance. At that time, a terminal disclaimer if warranted can be supplied to expedite issuance of this case.

For the reasons discussed above, Applicants submit that all now-pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the rejections and passage of this case to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon



Justine M. Wilbur  
Attorney of Record  
Registration No. 59,678

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/07)